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A NEW GENUS AND SPECIES OF SQUIDS FROM THE PHILIPPINES.

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While Smithsonian representative on the U. S. Bureau of Fisheries steamer *Albatross* during the Philippine Expedition in 1907 to 1909, Dr. Paul Bartsch collected numerous examples of an interesting squid in Jolo Harbor, Jolo, in the Sulu Archipelago. An examination of this form shows that it represents a new genus which is here described.

Order Decapoda
Suborder Teuthoidea
Family Loliginidae

UROTEUTHIS,[2] new genus.

Body cylindrical, slender, gradually tapering posteriorly to an attenuated tail-like portion beyond the transversely rhomboidal fins. Mantle articulating with the neck by three sets of cartilages as in *Loligo*, except that the lateral cartilages are more narrow and regular. Pen narrow, lanceolate, three-ridged, gradually narrowing posteriorly to a point, which is concave through the edges being pinched together.

Head, arms, and tentacles comparatively short and small. Eyes of medium size, covered by a transparent skin, and with a pore anterior to and slightly ventral of the eyes. Olfactory crests projecting behind each eye in the shape of a short scoop. Siphon rather broad, ventrally flattened, situated in a deep groove on the head, and furnished with an internal valve.

Arms with two rows of suckers, right ventral arm of males hectocotylized. Tentacular clubs with four rows of suckers. Buccal membrane with seven protuberances furnished with suckers.

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[2] Greek *ουρα* = tail + *τευθις* = squid.

Sexes showing dimorphism, the females being smaller, with shorter and less acute "tails," and without the slender ventral ridge in the mantle.

Genotype: *Uroteuthis bartschi*, new species.

This group resembles *Alloteuthis* (Naef) Wülker 1920 in having the mantle prolonged beyond the fins, but in that genus the buccal membrane lacks any prominent processes and is without suckers, the pen is broadened in the middle portion and involute for quite a distance posteriorly. and the fins are more heart-shaped. *Uroteuthis* agrees with *Loligo* in the presence of projections and suckers on the buccal membrane. It differs from both *Alloteuthis* and *Loligo* in the mantle being longer and more slender, and the arms and tentacles shorter.

UROTEUTHIS BARTSCHI, new species.

Figs 1–3.

Animal of moderate size, body firm, elongate, rather slender, cylindrical, tapering gradually posteriorly to a slender tail-like point beyond the rhomboidal pair of fins. This portion constitutes in the male animals one-fifth of the total mantle length; in the females, one-sixth. A fine raised ridge runs down the mantle in the center of the ventral surface of males, being absent in the females. The color of the body is a seashell pink on the ventral surface, becoming slightly darker dorsally. Along the center of the dorsal area is a narrow, elongate-ovate area of clustered small ovate spots of purplish color. This area, which stretches from the edge of the mantle to the center of the fins, is broadest, and the spots darkest and crowded closest together, a short distance anterior to the beginning of the fins. Around the periphery of this area the spots become lighter and more widely separated, and posterior to the center of the fins, they are smaller and fainter, often appearing like tiny specks or streaks.

The mantle articulates with the neck by three sets of cartilages. Dorsally an elongate dumbbell-shaped cartilaginous ridge about 15 mm. long, fits into a groove of the anterior portion of the pen, the end of which supports a pointed projection of the mantle edge. In each ventrolateral region a slender cartilaginous ridge about 13 mm. long, on the inside of the mantle, fits into an elongate-ovate concavity on the neck which has a raised cartilaginous edge around the anterior portion, which is narrowed at the end and slightly flexed ventrally. This broad groove is much shorter than the corresponding ridge on the mantle, being about 6 mm. long, and apparently the ridges slide along these grooves as the animal moves the head in and out of the mantle. The mantle edge is broadly acuminate in the region of these ridges.

The head region is comparatively rather small, and has a dark cluster of the color spots between each eye and the dorsal projection of the mantle. Over the rest of the dorsal region of the head and arms the spots are fainter and less crowded. The eyes are of medium size, covered by a transparent skin, which is pierced by a pore at the anterior rim of the eye.

The nuchal crests below each eye are in the form of a broad short scoop, slightly narrower at the edge, projecting from the head into the mantle cavity.

The siphon is rather broad and is ventrally flattened with a rounded depression on that surface at the height of the mantle edge. A tongue-like valvular flap protrudes from the transversely narrow opening. The siphon lies in a broad, moderately deep depression of the neck.

The arms and tentacles are comparatively short. In the males the arms are successively longer from the dorsal to the ventral pair, while in the females the ventral pair is about as long as or slightly longer than the second pair but shorter than the third pair. The second and fourth (ventral) pairs of arms are roughly trapezoidal in cross-section at base of arms, while the dorsal and third pair are more compressed with a keel on the outer side. All pairs have more or less thin marginal membranes. The suckers on all arms are in two regular rows, being largest on the second and third arms, slightly smaller on the dorsal arms, and considerably smaller on the ventral ones. The pedicellate suckers have a strong fleshy margin and the horny ring is brownish, with the teeth largest on the outer side.

The left ventral arm in the males is hectocotylized by a transformation of the suckers, commencing slightly beyond the middle of the arm. Here the pedicels increase in size and the sucker cups diminish in size and soon disappear, leaving fleshy fingerlike projections, which gradually diminish in size towards the tip.

The tentacular arms are compressed-ovate in cross-section, and on the outer edge bear a thin membranous keel which commences approximately a fifth of the way from the base; slightly beyond the beginning of the club it becomes wider and lies folded against the side. The club is margined on either side by a thin, wavy, scalloped membrane. At the proximal end of the club are two rows of suckers, but very soon a row of suckers appears on each side of these rows so that there are four rows of suckers at the broadest portion where they appear to be irregularly arranged because of their crowded nature. Distally the suckers become smaller and appear to be more regular in arrangement. The horny ring is lighter in color than in the suckers of the arms, and the large teeth appear to be more numerous.

The outer buccal membrane is moderately prominent and has seven triangular projections, which bear about seven or eight pedicellated suckers, with denticulated horny rings.

The mandibles are typical, the exposed portion being blackish brown in color. The radula is like that in *Loligo;* the formula is 2:1:1:1:2, the median tooth with a prominent mesocone and two smaller ectocones, while the laterals have a mesocone and a slightly smaller outer octocone; the marginals are simple.

The pen is long and slender with no prominent expansion anywhere, and of a pale yellowish-brown transparent color, the anterior portion somewhat paler than the posterior part. A strong central rib of a darker, horny color runs the length of the pen. A short distance below

TABLE OF MEASUREMENTS (IN MM.)	MALES				FEMALES		
	TYPE	LARGEST	SMALLEST	AVERAGE[1]	LARGEST	SMALLEST	AVERAGE
Length of mantle (along ventral line)....	199	223	181	199.9	131	120	124.3
Length of body to base of ventral arms..	208	234	188.5	209.4	140	130	132.9
Total length (to tip of tentacular arms) .	237	269	217	240.6	172	172	162.4
Length of fin.....	78	88	73.5	79.1	53	43.5	46.8
Length of "tail".....	40	47	34.5	40.7	18.5	20.5	19.8
Ratio of tail length to mantle length....	20	21	19	20.25	14	17	15.8
Width of body.....	15	15.5	14	14.8	14.5	14	14.25
Width across fins.....	43	43	42	41.6	32.5	33	32.75
Width of head.....	14	14.5	13	13.75	13.5	13.7	13.1
Length of dorsal arm.....	18.5	18.5	16	17.9	15	17	14.8
Length of second arm.....	23	25	22	22.7	22	23	20.2
Length of third arm.....	26	27.5	25	25.3	23.5	23	21.3
Length of ventral arm.....	27.5	29	25	27.7	22	23	20.3
Length of tentacular arm.....	29	35	28.5	31.2	32	42	29.5

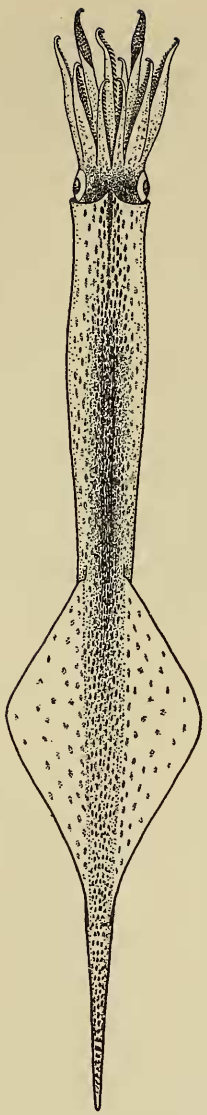
[1] This average includes all male specimens fncluding the type, except one immature specimen.

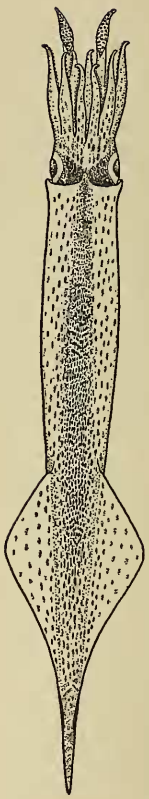
the anterior end a marginal rib appears on each side, also of a darker color. About 38 mm. below the anterior end the pen broadens slightly, forming a marginal border on the outside of the lateral ribs. The edge of these borders also becomes thickened and darker, while the lateral ribs gradually become paler and more obscure. Towards the posterior end the pen narrows to a fine point, with the margins pinched together ventrally to form a narrow troughlike concavity.

The type, a male, is U.S.N.M. No. 573515 and is figured in this paper. One female, U.S.N.M. No. 573512 also is figured here. Sixteen other male specimens, U.S.N.M. No. 573513, and 5 females, U.S.N.M. No. 573514, were collected simultaneously. The measurements for these specimens are presented in tabular form.

All these specimens were collected on the night of February 8, 1908, in Jolo Harbor, Jolo, Philippine Islands. They were gathered at the gang plank of the U. S. *Albatross* by means of a submarine light and dip net. For a vivid description of the capture of these graceful and elusive creatures, see Paul Bartsch: Pirates of the Deep. Stories of Squid and Octopus (Ann. Rep. Smithsonian Inst. 1916, pp. 362-363. 1917).

Attention may again be drawn briefly at this time to the sexual dimorphism apparent in the table of measurements above. The females are shorter, with a small, somewhat stumpier tail, and without the slender ventral ridge along the mantle; the ventral arms are shorter, instead of longer, than the third pair of arms.





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EXPLANATION OF FIGURES

FIG. 1. Uroteuthis bartschi, new species; male. 2. Uroteuthis bartschi, new species; female.

(Drawn by Mrs. Aime M. Awl)